



Iron Fitting Instructions

DESIGNED BY FITTERS FOR **EASY INSTALLATION**

Important Information

The following instructions are for installing the Cheshire Mouldings **Iron Range**.

Cheshire Mouldings Iron Range has been designed to suit stair pitches between **40 and 43°**.

Cheshire Mouldings Iron Range has been independently tested by FIRA and when installed in accordance with these instructions, conforms with Building Regulations for balustrades at 900mm high and 0.36KN/m domestic loadings.

As only official Cheshire Mouldings parts have been tested, the use of non Cheshire Mouldings products used in conjunction with this system cannot be guaranteed to conform.

All components should be inspected BEFORE installation commences for any damage and to check all your items are correct before installation. While care is taken to match our engineered timber products, timber is a natural product where the colour, grain structure, can vary.

While we do everything possible to ensure the information contained within these fitting instructions are correct, they are only a general guide, every situation is different. Please read through the fitting instruction fully before commencing any fitting, Cheshire Mouldings will not be held responsible for any mistakes made through incorrect fitting. You will need to take extra care when installing pre-finished components and some touching up will undoubtedly be necessary around the cut areas.

If you have any queries please contact our technical helpline on **0800 085 3475**.

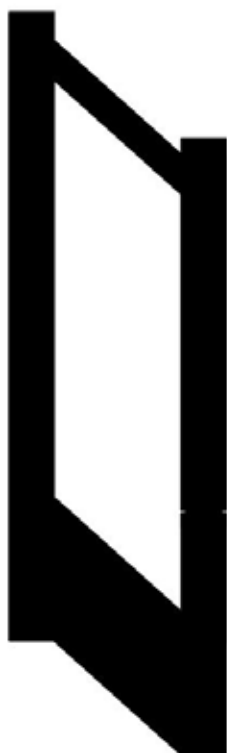
Please note:

All components should be inspected BEFORE installation commences for any damage, as Cheshire Mouldings cannot be held responsible for any damage caused during installation.

Tools required:

Saw, Battery drill, Drill bits - $\varnothing 4\text{mm}$, $\varnothing 7.5\text{mm}$, $\varnothing 12\text{mm}$, $\varnothing 25\text{mm}$, 7mm spanner, 5mm allen key, adjustable bevel/protractor, square, tape measure/1m steel ruler, PVA glue, Multi Purpose Adhesive i.e No Nails, clear silicone sealant.

post to post



over the post



Instructions Index

Stairs post to post - go to **Fig 1**

Stairs over the post - go to **Fig 24**

Landing - go to **Fig 35**

Post To Post Installation

Newel Posts

For Over the post installation, fit top newel post as illustrated in **Fig.4**, then proceed to **Fig.24**.

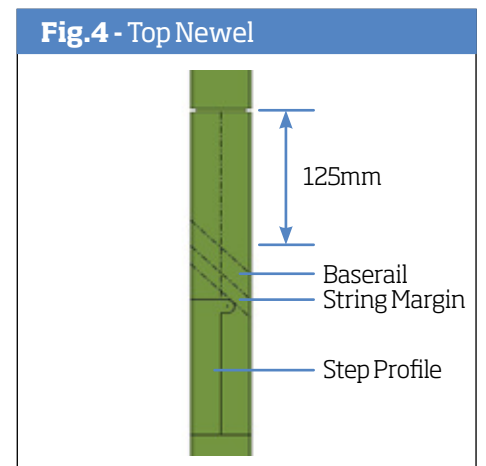
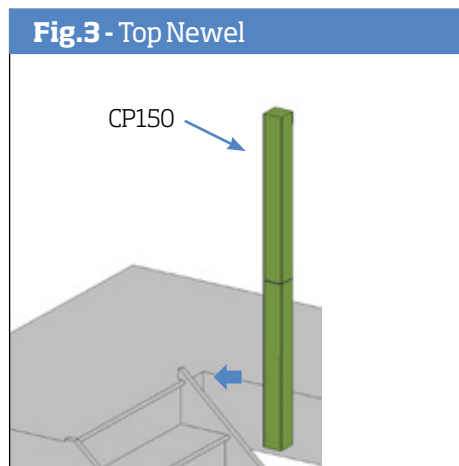
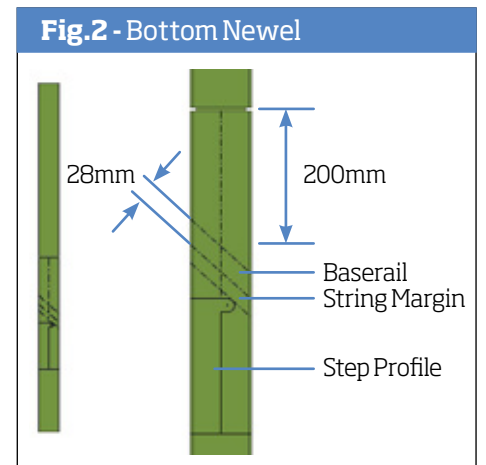
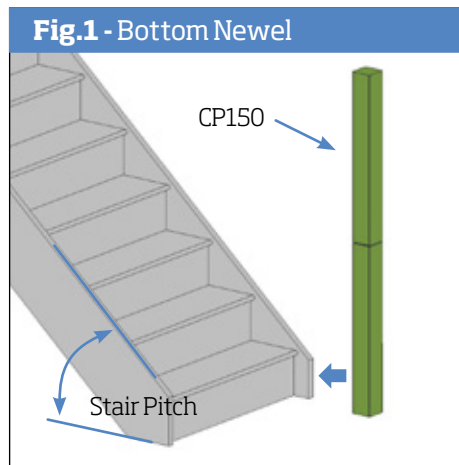
To establish **bottom newel** height, draw centre line down bottom half of newel.

Measure down **200mm** from bottom of newel groove and mark. Using adjustable bevel which has been set to pitch of stairs, strike line through intersecting lines - this represents top of baserail.

Measure down 28mm parallel to line and strike line through. Measure and mark string margin then add step profile (**Fig.1 & 2**).

Cut and temporarily fit to stairs (**Fig.5**).

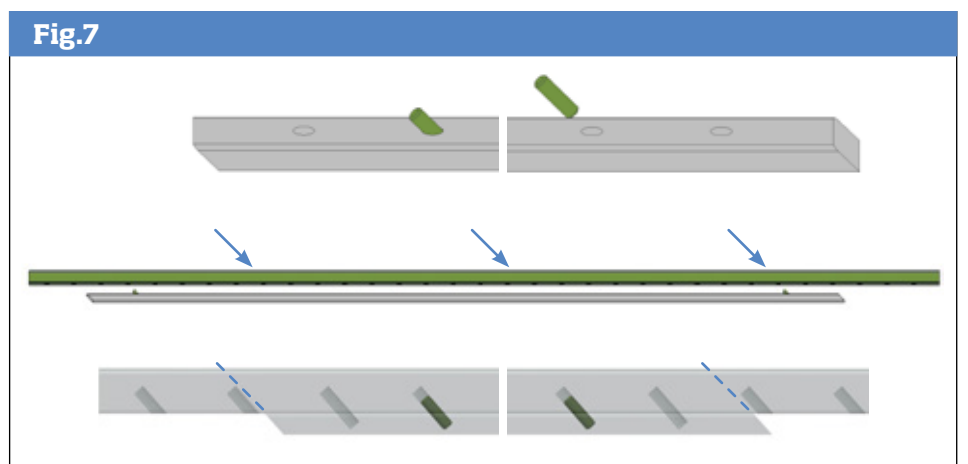
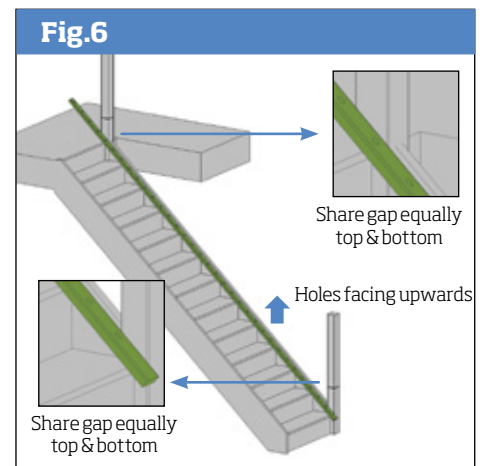
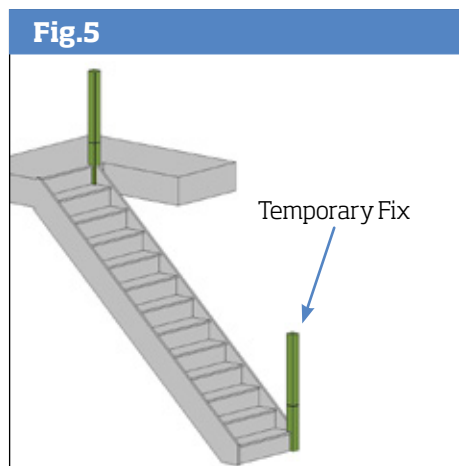
For **top newel** post, measure down **125mm** from bottom of newel groove (**Fig 3 & 4**). Follow procedure used for bottom newel. Cut and fit to stairs.



Handrail & Baserail

Place the pre drilled **rake baserail** onto the stair nosing, ensuring the holes are facing directly up and offer up against sides of newel posts. Align so that gap between newels and holes are equal top and bottom (2 people required). Mark baserail and cut to length (**Fig.6**). Check fit between newels.

To ensure **rake handrail** is cut correctly so the holes line up when fitted, place a 15mm dowel in the holes at each end of the baserail. Offer pre drilled rake handrail onto the dowels and slide down until rail faces touch. Mark handrail at both ends using cut ends of baserail as a guide. Mark rake handrail and cut (**Fig.7**).



Baserail can now be fixed to stairs. Pilot drill down through holes in rake base rail and secure to string using appropriate fixings (not supplied) (**Fig.8**).

Fitting handrails

Cut 2 off battens 763mm long to match pitch of the stairs (**Fig.9**). Fasten battens to top and bottom newels using masking tape (**Fig.10**).

On the rake handrail, mark centre line and measure down 26mm and mark (**Fig.11**).

Using a 12mm dia drill bit, drill a hole to a depth of 10mm. Then, using a 7.5mm dia drill bit drill a hole 65mm deep (**Fig.12**). Repeat for other cut end of rail.

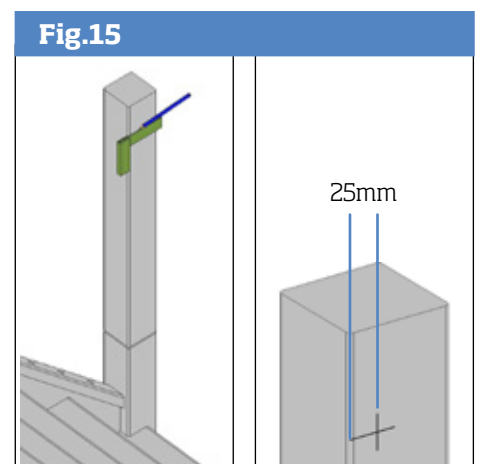
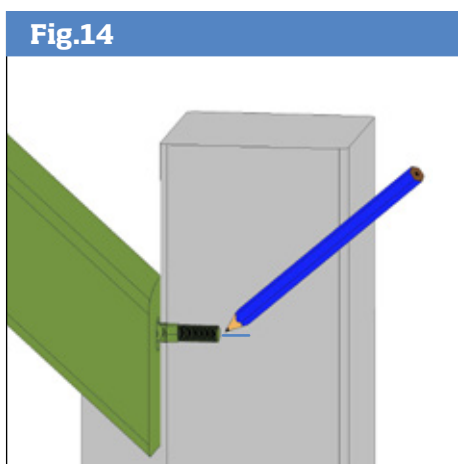
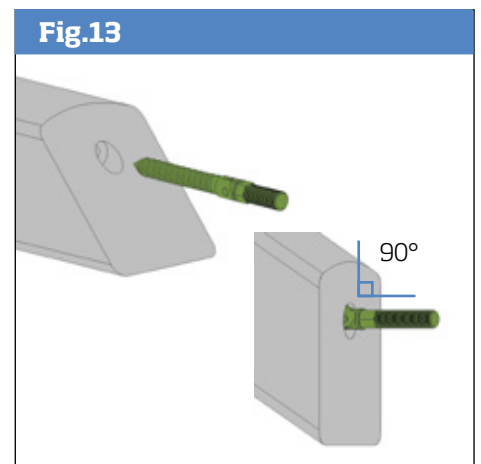
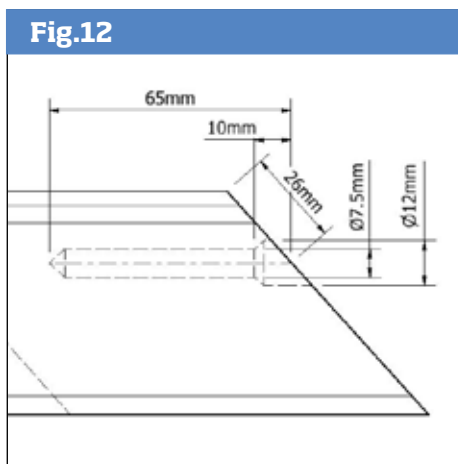
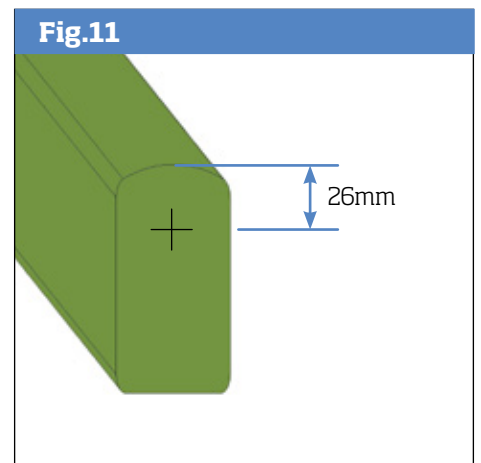
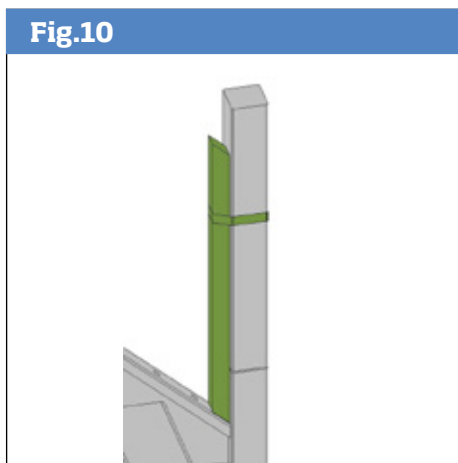
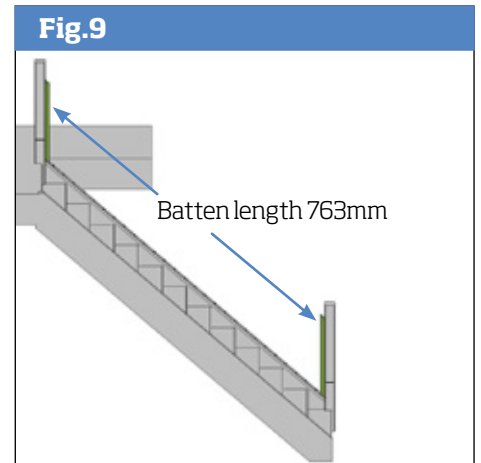
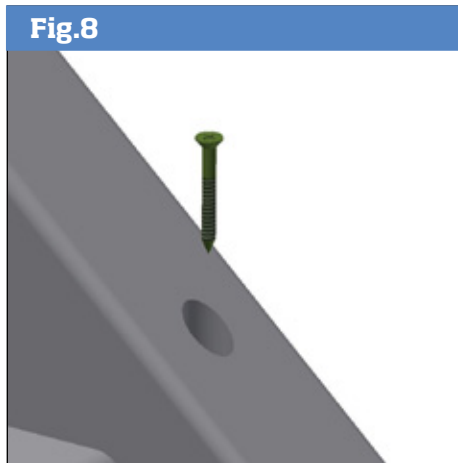
Take rail bolt fastener and insert woodscrew end into hole and wind into rail using 7mm spanner or drive it in using cordless drill on slow speed (**Fig.13**).

Insert until hinge joint is halfway in.

Once inserted, align so that threaded end is rotated 90 degrees to rail face, at both ends.

Offer handrail assembly between newels and onto tops of battens with threaded fasteners located to side of newel faces on stair side. Mark fastener location on bottom and top newels (**Fig.14**).

Using a square, draw horizontal line across from threaded stud mark. Measure 25mm in from rail side face of newel and mark (**Fig.15**).



Using 25mm dia bit, drill hole to depth of 60mm (**Fig.16**).

Take square and draw horizontal line across rail side face, level with side horizontal line previously marked. Find and mark centre (**Fig.17**).

Using a 12mm dia bit, drill hole so that it intersects with previously drilled 25mm dia hole.

Repeat procedure for top newel.

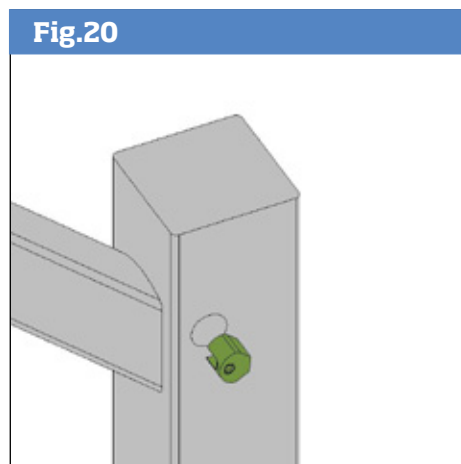
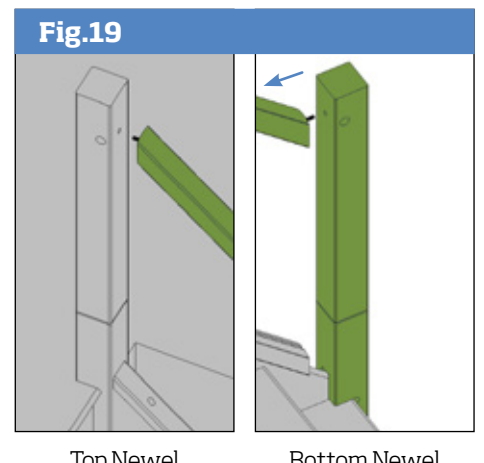
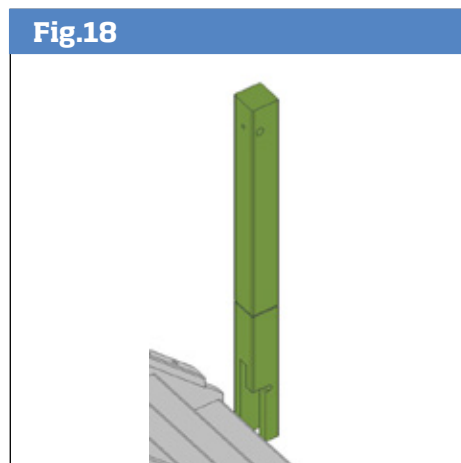
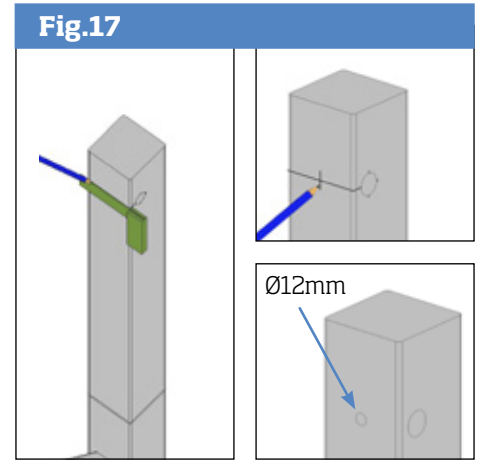
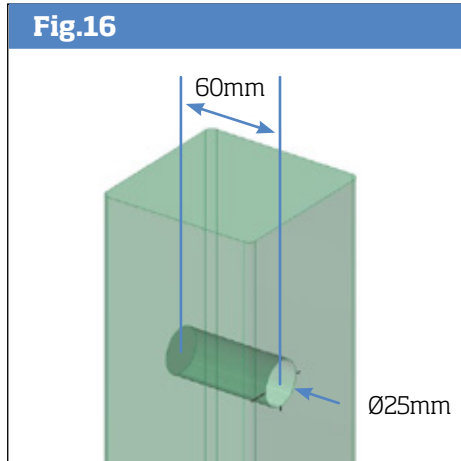
Bottom newel post which was temporary fixed now needs to be loosened off and pulled out of the way approx. 40mm in order for the rail fixing bolts to be inserted (**Fig.18**).

Apply some pva glue to rail faces

Offer handrail into top newel post 12mm hole. Push bottom newel post back into position so that the bottom rail fixing stud is located in the 12mm hole (**Fig.19**).

Offer locking nuts into 25mm dia holes on top and bottom newels and tighten using 5mm allen key (**Fig.20**).

Secure bottom newel post in place.



Installing rake balusters

If using square balusters with shroud covers, see (Figs 22a & 22b).

Place a bead of multi purpose adhesive i.e Gripfill, No Nails etc, in and around the pre drilled holes in base rail and handrail. Do not overfill (Fig.21). Holding at slight angle, insert baluster up into handrail hole until bottom of baluster can be aligned with base rail hole then push down fully. Twist baluster half turn to ensure adhesive coverage (Fig.22). Repeat for all balusters. **Make sure to wipe off excess adhesive from rails and balusters immediately.**

Offer the cover shrouds over each end of the metal baluster, ensuring that diagonal ends are aligned with the angle of the handrail and baserail (Fig 22a).

Apply adhesive into top and bottom rail holes. Insert top baluster end fully into top hole then insert bottom baluster end into bottom hole.

Rotate baluster in the hole to ensure adhesive coverage then align baluster so that it is aligned with the stairs. Use a straight edge along the baluster sides to check.

Make sure to wipe off excess adhesive from rails and balusters immediately.

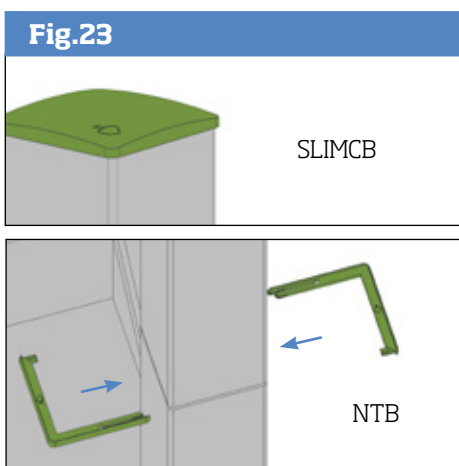
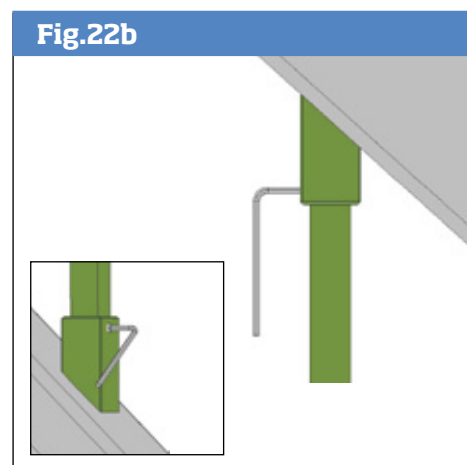
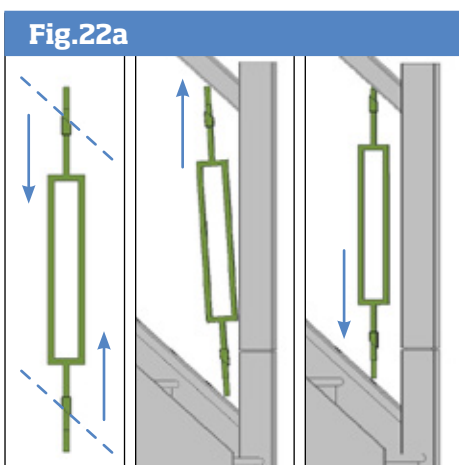
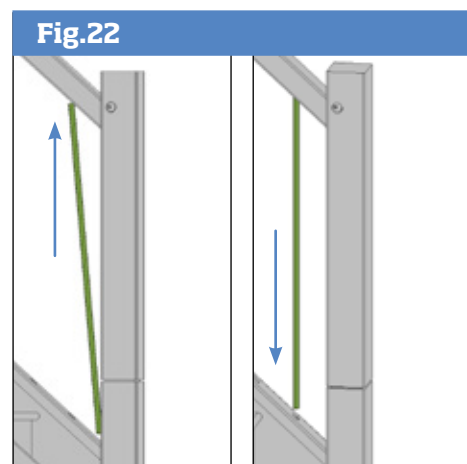
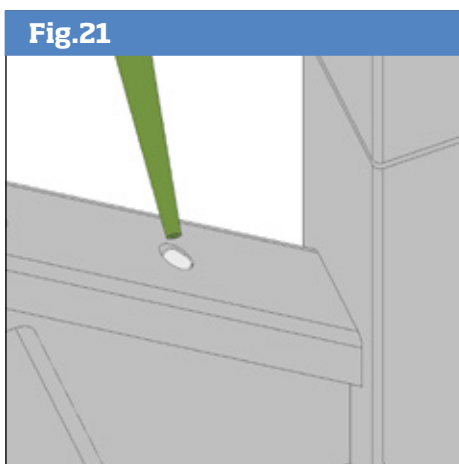
Once aligned, slide the shroud covers to the rails until they touch. Hold in place while you tighten the fixing screws clockwise using 2mm allen key (Fig 22b).

Use same procedure for landing balusters.

To fit newel caps **SLIMCB**, apply bead of multi purpose adhesive to top of newel and press cap on (Fig.23).

To fit newel trim **NTB**, apply thin bead of clear silicone into newel groove and offer both trim parts into groove until they click together (Fig.23).

Once stairs has been completed, go to Landing Installation section, starting at Fig.35.



Over The Post Installation

Newel Posts

To establish **bottom newel** height, draw centre line down bottom half of newel. Measure down **200mm** from bottom of newel groove and mark. Using adjustable bevel which has been set to pitch of stairs, strike line through intersecting lines - this represents top of base rail. Measure down 28mm parallel to line and strike line through. Measure and mark string margin then add step profile.

Extend centre line up to top half of newel.

From where the 200mm mark intersects the top of base rail line, measure up **711mm** and mark on centre line. Set adjustable bevel/protractor to 48 degrees and strike line through intersecting lines (**Fig.24**). Cut and fit to stairs.

Top newel to be fitted as per **Fig.3 & Fig.4**.

Fit over the post connector to top of bottom newel. Apply bead of multi purpose adhesive to top of newel. Take base (1) of OPTBLK connector and offer onto top of newel. Pilot drill, using 3.5mm dia bit, through 2 x screw holes. Secure connector to top of post using 2 off, 4.8mm x 40mm screws supplied (**Fig.25**). Temporarily fit OPTBLK (2) to base using M6 bolt and nut supplied but do not overtighten (**Fig.26**).

Fig.24

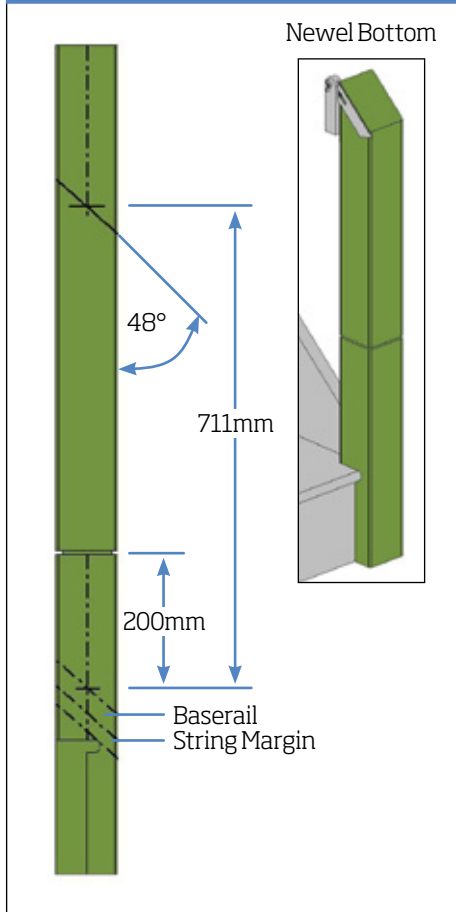


Fig.25

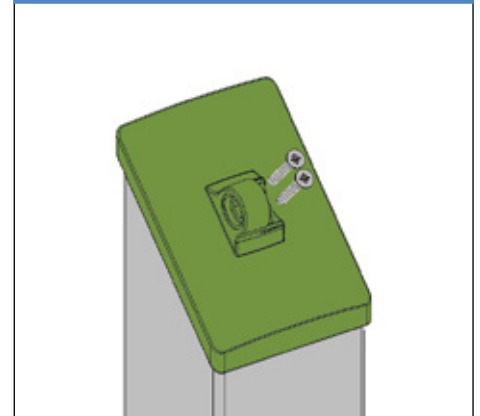
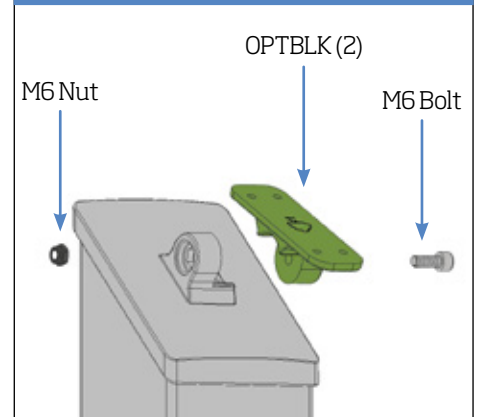


Fig.26



Handrail & Baserail

To cut base rail, follow instructions relating to **Fig.6**.

Add dowels each end of base rail and offer handrail onto dowels ensuring that the excess handrail is located at the bottom end of rail. Mark handrail at **top end only** and cut (**Fig.27**).

Mark and drill top rail cut end following dimensions in **Fig.12 & Fig.13**.

Cut 1 off, batten 763mm long as per **Fig.9**. Position at top newel and secure with masking tape.

Offer handrail onto OPTBLK over post connector on bottom newel and onto top batten with cut rail face up against top newel with threaded fastener to side of newel face (**Fig.28**). Mark and drill fastener holes in top newel following **Fig.15,16 & 17**.

With rail face up against top newel, mark location of over the post connector (2) onto underside of handrail (**Fig.29**). Remove handrail and lay it on floor. Remove connector (2) and place against marks on rail, **ensuring it is correct orientation**. Position centrally on rail and pilot drill through 4 x screw holes using 2.5mm drill bit to depth of 30mm. Fix in place using 4 off, 4.2 x 30mm screws supplied (**Fig.30**).

Fig.27

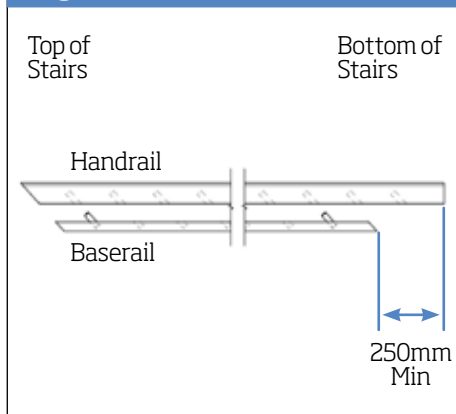


Fig.28

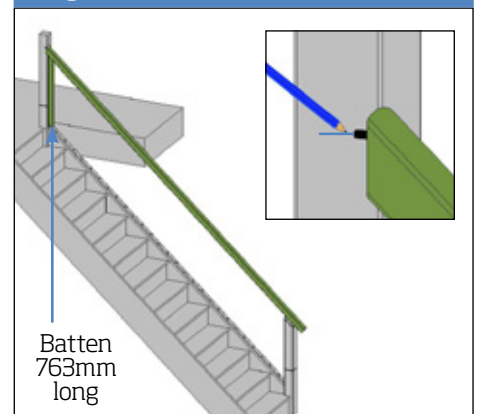


Fig.29

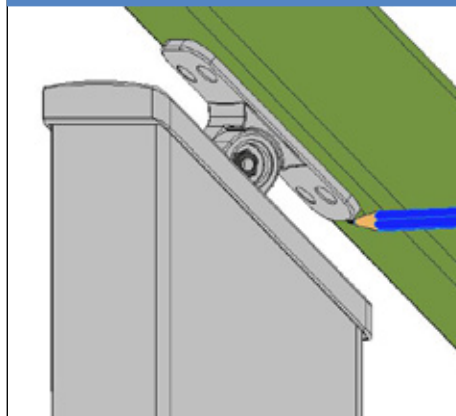
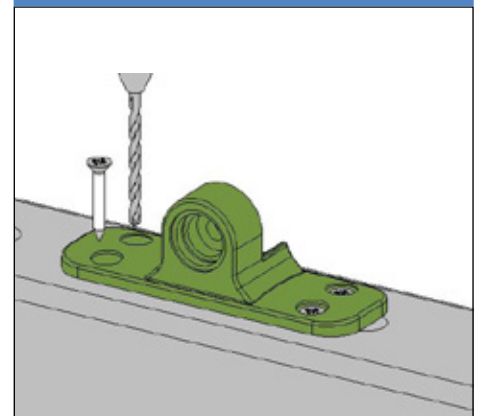


Fig.30



To cut handrail to correct length, measure approx. 25mm away from connector, mark and cut rail square (**Fig.31**).

To fit Rail End Cap (**RECBL**) offer end cap onto rail end and pilot drill through 2 off, screw holes, using 2.5mm drill bit, to depth of 25mm. Fix with 2 off, 3.5 x 25mm screws supplied (**Fig.32**).

Take top end of handrail assembly and insert threaded fastener into top newel hole. Insert locking nut and tighten slightly (**Fig.33**). At bottom end of rail, align connector (2) up to base connector (1). Insert M6 nut and bolt and tighten. Apply small amount of clear silicone into recessed holes in both connectors and insert cover caps (**Fig.34**).

Fully tighten nut in top newel. Apply small bead of pva glue into nut access hole and gently tap timber cover cap in (**Fig.33**).

To install rake balusters, please refer to instructions covering **Figs.21 & 22**.

Installing Rake Balusters

To install rake balusters, please refer to instructions covering **Figs.21 & 22**.

Landing Balustrade

To install half newel post (**CP150H**), cut bottom of newel so that newel groove is same height as groove in top newel. Temporary fix half newel to wall (fixings not supplied) (**Fig.35**).

Draw tramlines where landing baserail will be located (**Fig.35**). Align and mark baserail. If installing on return landing, please ensure that holes at mitred joint are no greater than 99mm apart (**Fig.36**).

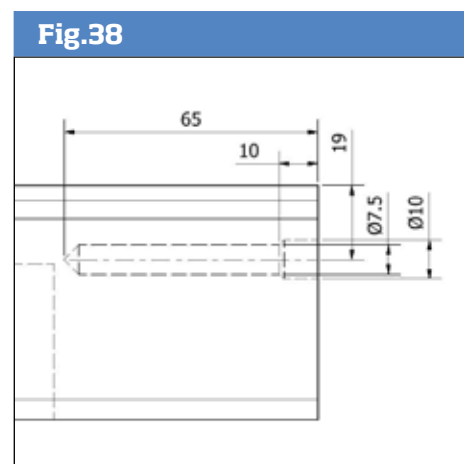
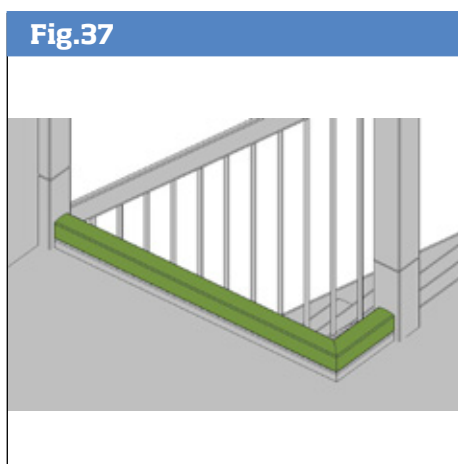
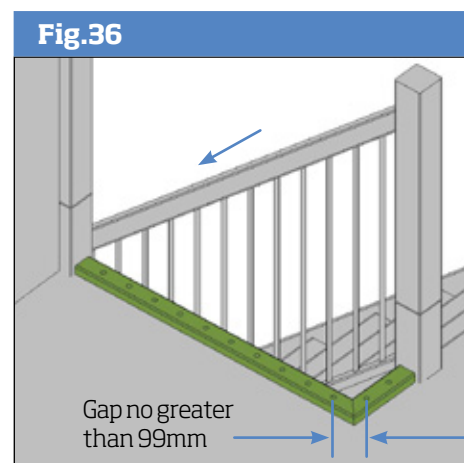
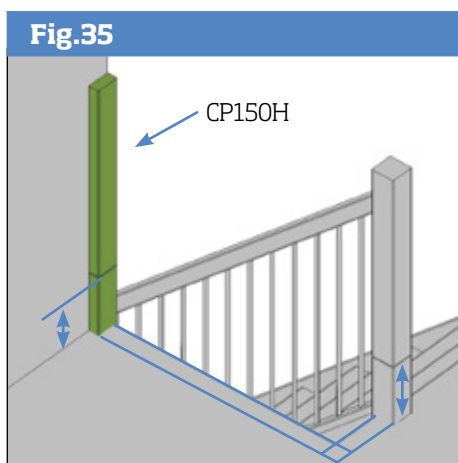
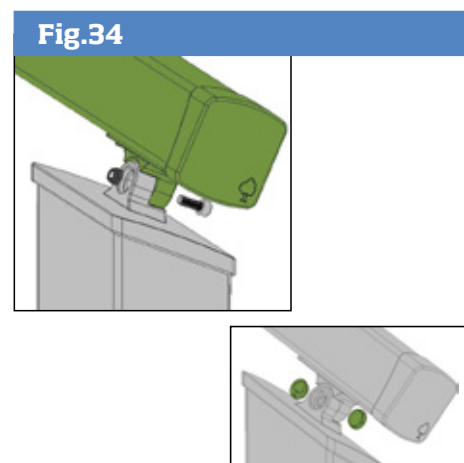
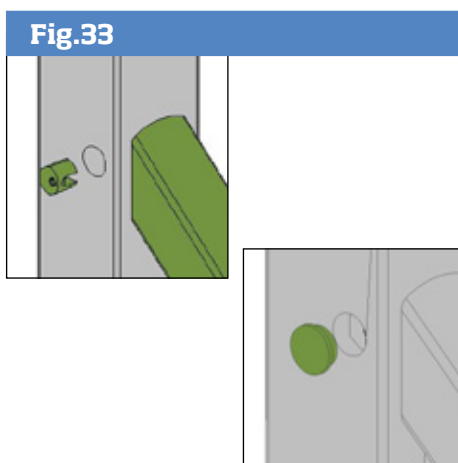
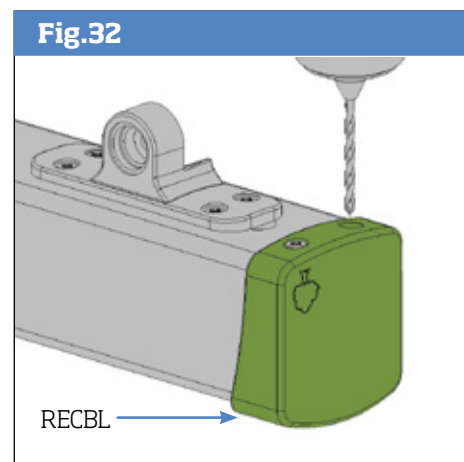
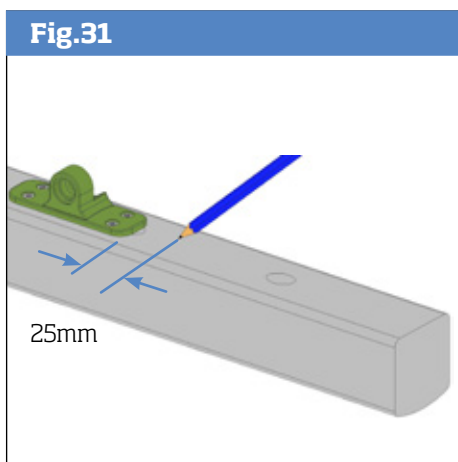
To cut landing handrail to length, insert dowels into baserail and lay handrail on top of baserail to ensure correct alignment. Mark and cut handrail to length (**Fig.37**).

Glue and dowel mitred handrail ends

Fix baserail to floor by screwing through holes in baserail (**Fig.8**) using appropriate fixings (not supplied).

Mark and drill handrail ends to accept fixing screw (**Fig.38**).

Insert fixing bolt into rail ends using 7mm spanner up to hinge joint.



Cut 2 off, battens at **818mm** long and place on top of baserail and up against half newel and top newel posts (**Fig.39**).

Offer handrail assembly onto top of battens so rail fixing threaded bolt is up against side of each newel post and mark location (**Fig.40**).

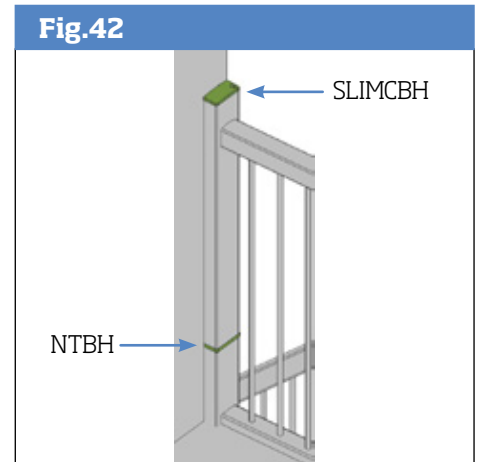
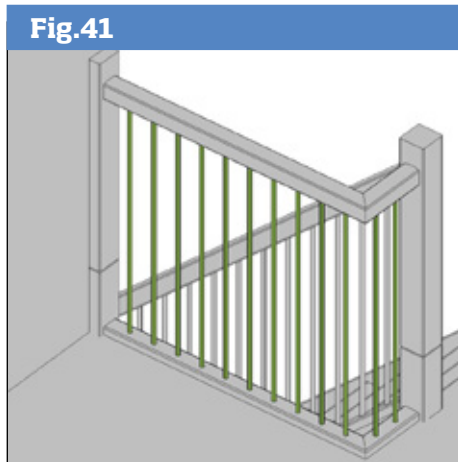
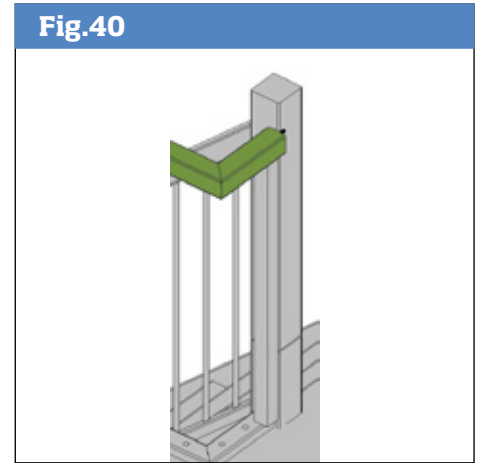
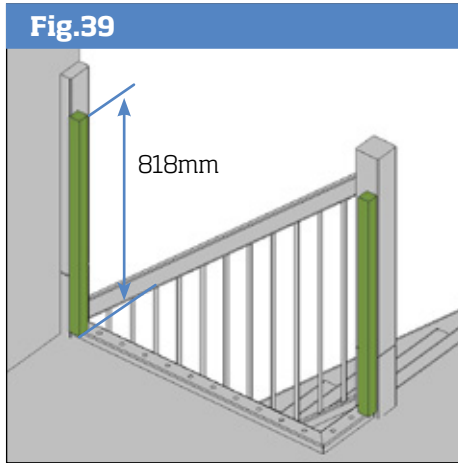
To mark and drill newel posts, follow procedure in **Figs 16,17 & 18**. You may need to remove half newel post in order to drill holes more easily. Once drilling is completed, secure half newel post back to wall.

Offer landing handrail assembly into half newel and then guide other end into top newel. Insert locking nuts and tighten

To insert landing balusters, follow same procedure as used in **Figs.21 & 22**.

To fit half newel cap (**SLIMCBH**) to half newel, apply bead of multi purpose adhesive to top of newel and push cap onto top of newel.

To fit half newel trim (**NTBH**) to half newel, apply small bead of clear silicone into newel groove and push half trim into groove. Remove any excess silicone immediately (**Fig.42**).

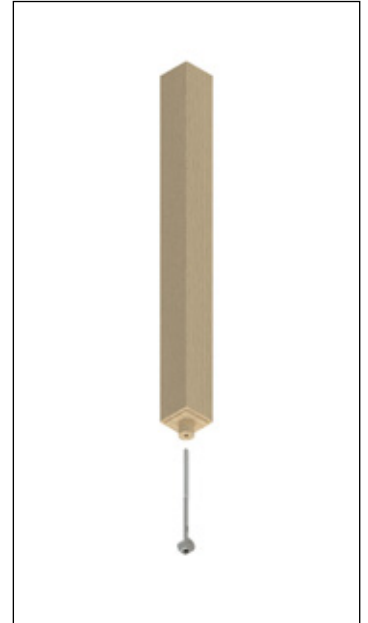
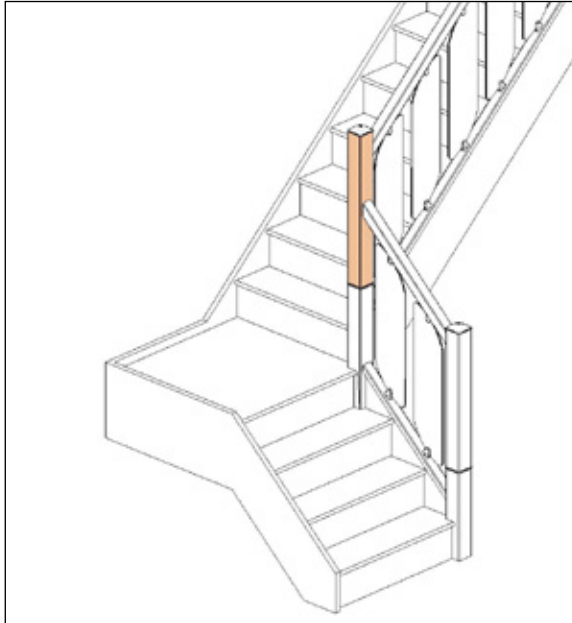


CPSTO Storey Newel Fitting Instructions

The following instructions are for installing the Cheshire Mouldings **CPSTO Storey Newel Post**. This post can be used when you have structural posts that cannot be removed eg on quarter landings and winders

The CPSTO newel post has been specifically designed to work with the Cheshire Mouldings new stair parts ranges which includes **Reflections, Iron, Clarity** and **Axxys®II**.

Note: Example shown is our Clarity range.



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These should be read in conjunction with the full fitting instructions associated with your chosen range.

Where your structural post is located, extend top of string along inside face of post (**Fig 43**).

Measure the height of the baserail and mark on the post, parallel to top of string mark (**Fig 44**).

Draw centreline up the newel face. Where the centreline intersects with top of baserail mark, measure up 200mm. Mark and cut (**Fig 45**).

Check cut is square and smooth.

Note: the base of the post needs to be 90mm x 90mm in section size. If the section size is smaller it will have to be built up by cladding each side equally to the required size. Use glue and pins to fix (**Fig 46**).

Next, you need to mark and drill the post to accept CPSTO storey newel.

Measure and mark centreline on post side face (facing onto the stairs). Measure down 125mm from top of post and mark. Drill $\text{\O}35$ hole to depth of 62mm. Measure and mark the centre on top of the post and drill $\text{\O}38$ hole to a depth of 40mm. Next, drill a $\text{\O}13$ hole down through top of post until it terminates at $\text{\O}35$ hole (**Fig 47**).

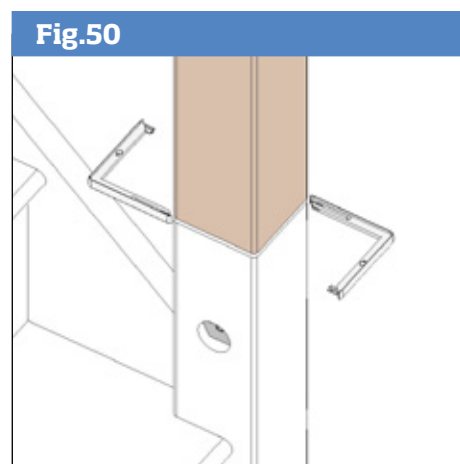
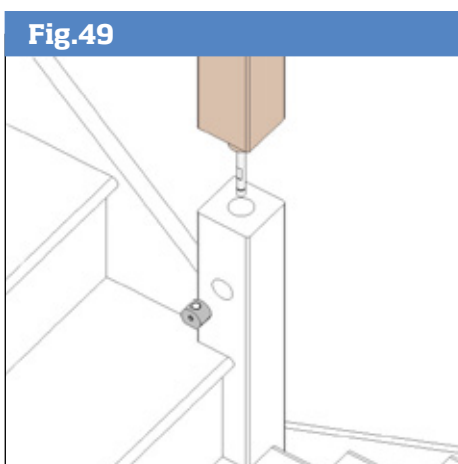
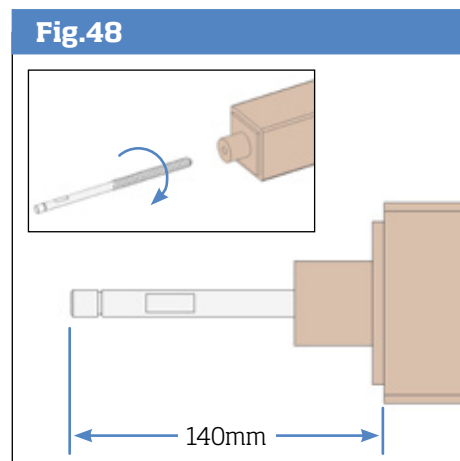
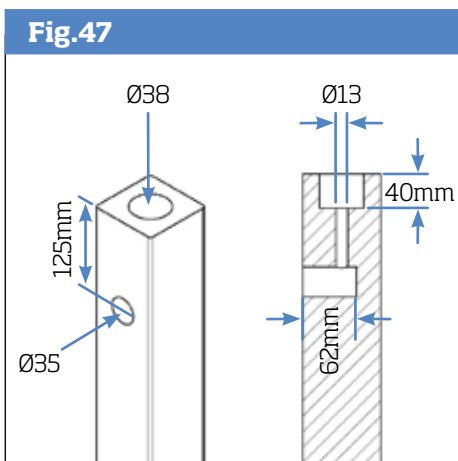
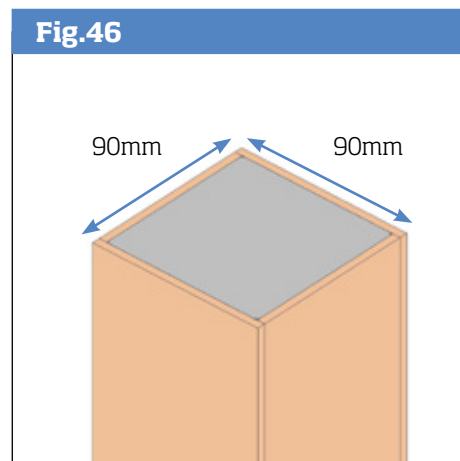
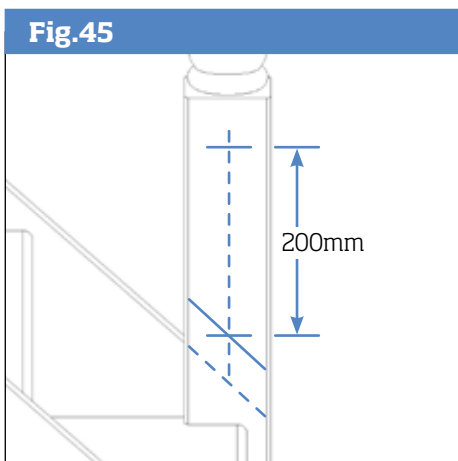
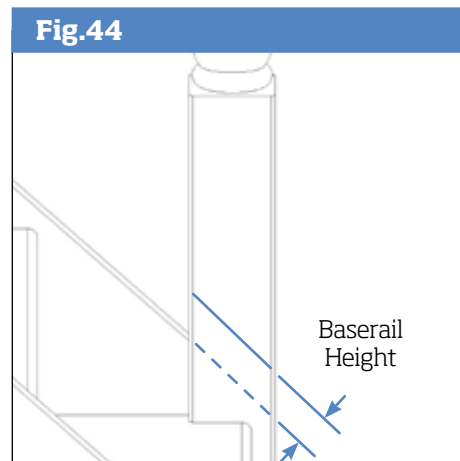
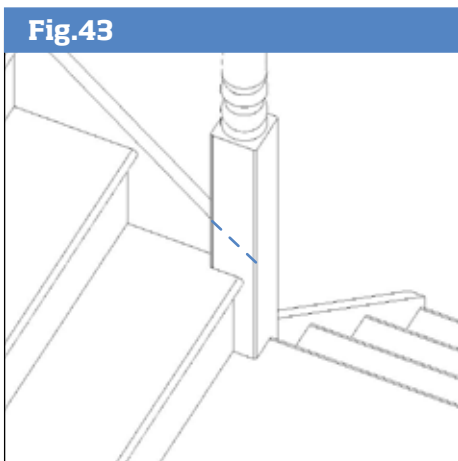
To assemble CPSTO storey newel, apply a gap filling adhesive into hole in end of post spigot. Use a spanner on flat location on the bolt and wind the bolt in until the open end of the bolt is projecting 140mm from the 90mm section (**Fig 48**).

Insert the locking nut into the $\text{\O}35$ hole, ensuring the rounded face is to the top. Insert post bolt down so it locates in locking nut. Support weight of post until threads are correctly aligned. Tighten with allen key until post is fully down (**Fig 49**). Check post sides are aligned.

Glue locking nut cover cap in position.

Apply clear silicone around post shoulder joint and install newel trim until they click together (**Fig 50**).

To install the other posts on the stairs (non structural) and the infill, follow main instructions for your chosen stair range.



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